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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/608,883	06/26/2003	Steven C. Avanzino	F0361.C1.D1	7845

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EXAMINER

SMOOT, STEPHEN W

ART UNIT	PAPER NUMBER
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2813

DATE MAILED: 01/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Advisory Action

Application No.

10/608,883

Applicant(s)

AVANZINO ET AL.

Examiner

Stephen W. Smoot

Art Unit

2813

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 09 January 2005 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE. Therefore, further action by the applicant is required to avoid abandonment of this application. A proper reply to a final rejection under 37 CFR 1.113 may only be either: (1) a timely filed amendment which places the application in condition for allowance; (2) a timely filed Notice of Appeal (with appeal fee); or (3) a timely filed Request for Continued Examination (RCE) in compliance with 37 CFR 1.114.

PERIOD FOR REPLY [check either a) or b)]

- a) ☐ The period for reply expires _____ months from the mailing date of the final rejection.
- b) ☒ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection. ONLY CHECK THIS BOX WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

1. ☐ A Notice of Appeal was filed on _____. Appellant's Brief must be filed within the period set forth in 37 CFR 1.192(a), or any extension thereof (37 CFR 1.191(d)), to avoid dismissal of the appeal.
2. ☐ The proposed amendment(s) will not be entered because:
- (a) ☐ they raise new issues that would require further consideration and/or search (see NOTE below);
 - (b) ☐ they raise the issue of new matter (see Note below);
 - (c) ☐ they are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
 - (d) ☐ they present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: _____

3. ☐ Applicant's reply has overcome the following rejection(s): _____.
4. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
5. ☒ The a) ☐ affidavit, b) ☐ exhibit, or c) ☒ request for reconsideration has been considered but does NOT place the application in condition for allowance because: See Continuation Sheet.
6. ☐ The affidavit or exhibit will NOT be considered because it is not directed SOLELY to issues which were newly raised by the Examiner in the final rejection.
7. ☒ For purposes of Appeal, the proposed amendment(s) a) ☐ will not be entered or b) ☒ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.

The status of the claim(s) is (or will be) as follows:

Claim(s) allowed: None.Claim(s) objected to: None.Claim(s) rejected: 11-18.Claim(s) withdrawn from consideration: None.

8. ☐ The drawing correction filed on _____ is a) ☐ approved or b) ☐ disapproved by the Examiner.
9. ☐ Note the attached Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____.
10. ☐ Other: _____.

Stephen W. Smoot
Patent Examiner/AU 2813

Continuation of 5. does NOT place the application in condition for allowance because:

The applicant argues that Passemard lacks the disclosure of changing SiOCH into SiCH to form the SiCH layer. Regardless of whether or not the applicant's claims 11, 15 particularly point out this feature, this is a product-by-process limitation. Per MPEP section 2113, a patentability determination of product-by-process claims is based on the structure implied by the process. Accordingly, the SiCH layer of Passemard appears to be substantially identical to the applicant's as claimed SiCH barrier dielectric material (see claims 13, 17) and the burden shifts to the applicant to show that they are not.

Also, regarding the combination of Passemard and Ito, the applicant argues that Passemard teaches away from Ito by teaching that a seed layer is not required. However, the disclosure of Passemard is silent regarding a seed layer and merely describes filling a hole with copper using broad terminology (as pointed out by the applicant, the copper filling is described by Passemard in paragraph [0031]). The method taught by Ito of depositing a copper seed layer by sputtering and then plating copper on the copper seed layer (see column 5, lines 27-36) is one way to fill holes with copper. Accordingly, the combination of Passemard and Ito incorporates this copper plating method, as taught by Ito, for filling the holes of Passemard.

Further, regarding the combination of Passemard and Ito, the applicant argues that neither reference provides motivation for combining. However, Ito provides motivation by recognizing that with the use of a copper seed layer, the problem of copper peeling is eliminated, thereby improving semiconductor device yield (see column 9, lines 51-65).